

DISCUSSION

Claim 6 has been amended to indicate that the percentage by weight of the plasticizer is from 0.2% to 15%. Claim 12 has been amended to indicate that the constitutional units provided by acrylonitrile is from 2% to 8% by weight. Claim 12 previously contained the limitations to a minimum of 4% by weight of constitutional units provided by acrylonitrile. With the limitation for a minimum of 4% by weight of constitutional units provided by acrylonitrile, a composition containing 98% by weight of constitutional units provided by acrylates could not be formed. Applicants respectfully request that the amendment to claim 12 be entered at this time and considered.

Claim 25 has been amended to indicate that components (d) and (e) are mixed with the mixture of components (a) and (b) in any order. Applicants noted that Claim 25 is dependent on Claim 6 and that component (c) is water and is present in the dispersion of polymer A or added to control viscosity. Applicants submit that the amendment will not require an additional search and merely clarifies the process.

Before discussing the rejection over the prior art, Applicants deem it prudent to set forth what they consider to be their invention.

Applicant's invention is polyacrylate jointing compound. The claimed jointing compound comprises 10 to 60% by weight of at least one copolymer containing from 85 to 98% by weight of constitutional units provided by at least one acrylate and from 2 to 10% by weight of constitutional units provided by acrylonitrile wherein the acrylate is an ester of acrylic acid with an alcohol containing 2 to 8 carbon atoms.

The jointing compound of the invention contains from 0.2% to 15% by weight of at least one fatty compound as a plasticizer. The "fatty compounds" in the context of the invention include fatty acids, fatty alcohols and derivatives thereof. The molecular weight is generally above 100 and more particularly above 200. The upper limit is 40,000 and preferably between 300 and 1,500 (page 3, lines 14-17)). The "fatty alcohols" and derivatives thereof are defined at page 7, line 5 through page 8, line 10. At page 8, lines 9 and 10 the specification teaches:

"In particular, no polyalkylene oxides and/or oleo chemical derivatives thereof are

used”.

The statement at page 8, lines 9 and 10 clearly indicates that fatty alcohols containing chains of polyalkylene oxides are not included in the derivatives of the fatty alcohols useful as plasticizers in the practice of the invention.

The composition of the invention contains from 5 to 20% by weight of water; up to 70% by weight of fillers; and 0.3 to 5% by weight of auxiliaries. The percent by weight of the components are based on the weight of the jointing compound.

Claim 19 claims a polyacrylate jointing compound containing 15 to 60% by weight of the copolymers of acrylates and acrylonitrile; 1% to 10% by weight of at least one fatty compound selected of group consisting of fatty acids, fatty alcohols and derivatives thereof; 20% to 60% by weight of pigments and fillers; 1% to 2.5% by weight of one or more auxiliaries and 10% to 15% by weight of water.

Claim 25 is directed to a process for producing the polyacrylate jointing compound. The process comprises forming a mixture of component (b) and component (a); adding with mixing components (d) and (e) in any order; and adjusting the viscosity of the jointing compound if necessary by the addition of water.

Applicants respectfully submit that the invention as presently claimed is neither taught nor suggested by the prior art reference cited by the Examiner. Applicants acknowledge with appreciation that the Examiner has withdrawn the rejections based on D'Alelio, Antlfinger et al., Fukuda et al., Patella '287, Reed and Patella '690. The only remaining rejection is based on Reinhard et al.,(US 3,551,374). Applicants also acknowledge with appreciation that claim 14 would be allowable if rewritten in independent form.

Claims 6-13 and 15-26 stand rejected under 35 USC 102(b) as anticipated by or, in the alternative, under 35 USC 103(a) as obvious over Reinhard et al. Applicants respectfully submit that Reinhard et al. neither teaches nor suggest the present invention.

Reinhard et al. is directed to caulking compounds and sealants based on soft

polymers of ethylemically unsaturated compounds. The composition must contain at least 2 different polymers and from 0.5 to 2.5 times the weight of the polymers of conventional inorganic fillers. The composition contains from 8 to 18% by weight of water.

The composition comprises a mixture of (a) 1 part of a (co)polymer A of an ester of an ethylemically unsaturated carboxylic acid containing 3 to 5 carbon atoms with an alcohol containing 1 to 12 carbon atoms as an aqueous dispersion: (b) 0.25 to 2.5 parts of an anhydrous (co)polymer B having a K value of 10 to 70 derived from an ester of acrylic acid and/or methacrylic acid with a monohydric aliphatic alcohol having 2 to 8 carbon atoms in the alkyl group and/or of the vinyl alkyl ether having 1 to 4 carbon atoms in the alkyl group and/or of butadiene and/or (b2) a polymer B having a K value of 5 to 40 and derived from isobutylene or isoprene. The composition is prepared by mixing or emulsifying the anhydrous, solvent-free and emulsifiable polymer B with or in an at least 50% aqueous dispersion of polymer A.

The suitable polymers A are set forth in Reinhard et al. beginning at column 2, line 29 through column 3, line 31. A large number of possible acrylates are disclosed including acrylates containing from 88 to 92% by weight of n-butyl acrylate and 8 to 12% by weight of acrylonitrile. Other suggested polymers contain from 78 to 88% by weight of 2-ethylacrylate and 7 to 20% by weight of acrylonitrile and/or methacrylonitrile and 2 to 5% by weight of acrylic acid and/or methacrylic acid. Other copolymers of acrylates which do not contain acrylonitrile are specifically set forth.

The nature of the (co)polymer B is set forth beginning at column 3, line 32 through column 4, line 32. The (co)polymers B can contain residues of esters of acrylic acid and/or methacrylic acid with alcohols having 2 to 8 and particularly 3 to 4 carbon atoms and are present in the composition at from 0.25 to 2.5 times and particularly 0.3 times to twice the weight of polymer A in the caulking and sealing compounds (based on the dry weight). The B (co)polymers have a K value of 10 to 70 and particularly 30 to 50. The (co)polymers B are prepared by polymerization in bulk or in organic solvents

and are substantially anhydrous. It is advantageous to use polymers containing 90 to 100% by weight of the esters, or 50 to 60% by weight of the esters and up to 40% by weight of acrylonitrile and or methacrylonitrile and 0 to 10% by weight of other hydrophilic monomers such as ethylenically unsaturated carboxylic acids.

The caulking and sealing compound disclosed in Reinhard et al. can additionally contain plasticizers, drying oils, stabilizers and emulsifiers. However, no particular plasticizers are disclosed. Since the polymer B is hydrophobic, emulsifiers are required to be added to the polymer B before mixing with the aqueous dispersion of polymer A or to the mixture of polymer B and polymer A. Emulsifiers are required in a range of 0.25 to 5% by weight of the polymer B. Anionic and known nonionic emulsifiers are particularly suitable for the purpose and nonionic surface-active adducts of 5 to 50 moles of ethylene oxide and one mole of an alkylphenol, a fatty alcohol, a fatty acid or a long chain amine and the salts of their sulfonation products have proved to be especially suitable. (Column 4, lines 40-46). All of the examples include less than 0.5% by weight of the emulsifying agent based on the weight of the composition as a whole.

At column 4, lines 33-46, Reinhard et al. disclose that the plasticizers, drying oils, stabilizers and emulsifiers may be added in the usual way both to the polymers B and to the polymer mixture (col. 4 lines 32-35). According to the teachings of Reinhard et al., the plasticizer, drying oils, stabilizers and emulsifiers are never added directly to a dispersion of polymer A alone.

Applicants submit that Reinhard et al. does not disclose any particular plasticizers which are useful in the practice of the invention. The drying oils can be drying substances but are not plasticizers since they are reacted with oxygen in the air to become rigid portions of the composition.

The stabilizers and emulsifiers are added in an amount of 0.25 to 5% by weight with reference to the polymer B. Anionic and nonionic emulsifiers are particularly suitable for the purposes and nonionic surface-active adducts of 5 to 50 moles of

ethylene oxide to one mole of an alkyl phenol, a fatty alcohol, a fatty acid or a long chain amine and the salts of their sulfonation products have proved to be especially suitable. Applicants submit that in the examples, the ethoxylated sperm oil is an emulsifier and not a plasticizer.

Applicants invite the Examiner's attention to the definition of the fatty alcohols and derivatives thereof useful in the practice of the present invention. At page 8 lines 9 and 10 the specification teaches:

"In particular, no polyalkylene oxide and/or oleo chemical derivatives thereof are used."

Applicants, therefore respectfully submit that the emulsifier (ethoxylated alcohol) useful in the Reinhard et al. composition is not the same or equivalent to the fatty compounds useful as plasticizers in the practice in the present invention.

In particular, the examples show that the emulsifying agents in the Reinhard et al. composition are not used in an amount of more than 0.5 percent by weight of the total composition. Applicants submit that Claim 19 which requires at least one percent by weight of the fatty compound would neither be taught nor suggested by the Reinhard et al. disclosure.

Since the composition of the present invention does not require the presence of a hydrophobic emulsifiable (co)polymer an additional emulsifier is not required to be added to the dispersion of the polymer A, Applicants respectfully submit that no additional emulsifying agent is required in the composition of the present invention. In addition, as set forth in the specification under the definition of the derivatives of the fatty alcohols, polyalkylene oxide derivatives of the fatty alcohols are not included as derivatives of fatty alcohols useful as a plasticizer in the practice of the invention.

Claim 25 is clearly not anticipated nor suggested by the Reinhard et al. disclosure. The first step of the process is forming a mixture of the (co)polymer dispersion with the plasticizer. If as the Examiner suggests, the emulsifying agent is a plasticizer, Reinhard et al. teaches that the emulsifying agent is not added to the

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polymer A alone but in a mixture with polymer B or to the mixture of polymer B with the dispersion of polymer A. Applicants respectfully submit that Claim 25 and 26 are therefore neither taught nor suggested by Reinhard et al.

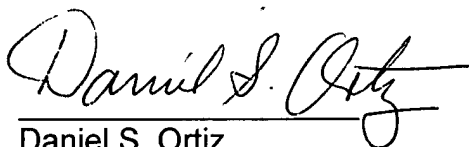
The teachings of Reinhard et al. differ from the teaching from the present invention in that the composition must contain a mixture of polymer A with polymer B wherein polymer B is from 20% by weight to 71% by weight of a mixture of polymer A and polymer B. Such a composition is far outside of a composition of the present invention which does not require the presence of an additional polymer B.

In view of the teachings of the present application that polyalkylene oxide and/or oleo chemical derivatives of the fatty alcohols are not used as plasticizers in the composition, Applicants respectfully submit that Reinhard et al. would neither teach nor suggest the present invention and would in fact teach away from the present invention.

In addition, Applicants submit that Reinhard et al. would neither teach nor suggest the composition of Claim 19 or the process of Claim 25.

In view of the above discussion, Applicants respectfully submit that the application is in condition for allowance and favorable consideration is requested.

Respectfully submitted,



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